

Monticello Surface- and Ground-Water Remedial Action Project



United States
Department of Energy
Grand Junction Projects Office

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Background

What is the Monticello Surface- and Ground-Water Remedial Action Project?

The Monticello Surface- and Ground-Water Remedial Action Project is an environmental cleanup project the U.S. Department of Energy (DOE) is conducting in Monticello, Utah. The project involves investigating and, if necessary, cleaning up contaminated ground water and surface water at and downstream of the Monticello millsite. It also involves investigating and possibly cleaning up sediments deposited downstream of the millsite along Montezuma Creek. The project is sometimes called "Operable Unit III" or "OU III."

Figure 1 shows the study area for the project. The Montezuma Creek portion of the study area is divided into the upper, middle, and lower canyon. The mill tailings in four piles on the former millsite are the primary source of contamination in upper and lower Montezuma Creek canyon. DOE is now studying whether millsite-related contaminants in surface water, ground water, and sediment deposited along

Montezuma Creek pose unacceptable risks to human health and the environment.

The study results will help DOE, the U.S. Environmental Protection Agency (EPA), and the State of Utah determine if cleanup is necessary and what cleanup levels are appropriate. Public participation will be an important part of these decisions. DOE will seek public input throughout the investigation and decision-making steps of the project. The Citizens Site Specific Advisory Board will help promote public participation. The board holds meetings bimonthly, which are open to the public (see back page for more information).

Upon completion of the study, DOE, EPA, and the State will document the proposed options in a Proposed Plan. DOE will make the plan available to the public for review and comment in early 1998. Public comments on the Proposed Plan will be addressed or responded to in the Record of Decision, which will document the final decision for the project.

How Will DOE Study the Risks?

DOE is investigating and assessing the risks to human health and the environment.

Scientists are collecting samples of plants, animals, soil, sediment, ground water, and surface water from the contaminated areas and from an uncontaminated background area. The samples from these areas are analyzed for millsite-related metals (e.g., lead, copper, arsenic) and radionuclides (e.g., uranium, radium).

DOE will use the results of these assessments to

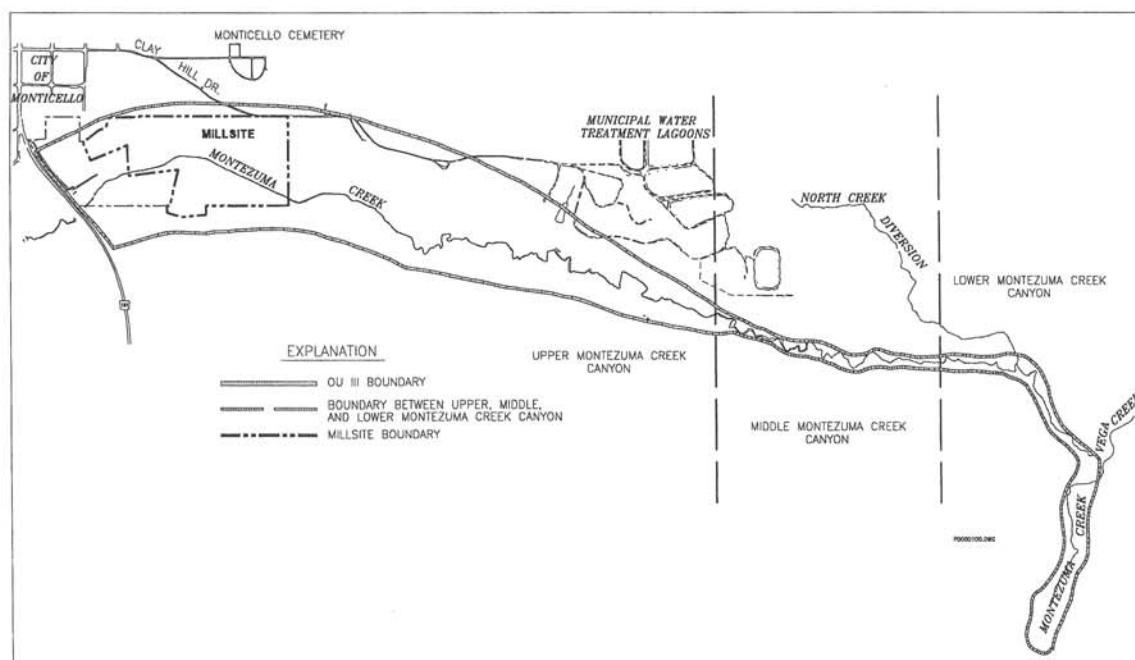


Figure 1. Operable Unit III Study Area

compute the risks to humans, animals, and the environment. Regulatory guidelines will be used to determine if the resulting risks are acceptable or unacceptable. If the risks are found to be unacceptable, DOE will evaluate various actions to reduce the risks and a preferred action(s) will be selected.

Data collected to date show that concentrations of several metals (e.g., arsenic, manganese, molybdenum, selenium, vanadium) and several radionuclides (e.g., radium and uranium) in sediment, soil, surface water, and ground water are higher in the study area than in the background area. It will be determined whether these higher-than-background concentrations pose an unacceptable risk to human health or the environment. The types of current or likely future exposures (land uses) expected within the study area will be considered when evaluating the risks. The risk assessment will be included in the Remedial Investigation Report, which will be made available to the public in 1997.

What Water Is Contaminated?

Ground Water:

To date, elevated concentrations of millsite-related contaminants have only been observed in the shallow aquifer. Within OU III, the shallow aquifer underlies the tailings piles in unconsolidated soils and sediments and continues eastward beyond the millsite boundary. Currently, the shallow aquifer is only used for agricultural purposes, but it could possibly be used as a drinking-water source in the future.

DOE is currently evaluating whether contamination in the shallow aquifer has migrated to the deeper Burro Canyon Aquifer. Existing information indicates contamination has not migrated to the Burro Canyon Aquifer in the immediate vicinity of the millsite. The city of Monticello uses the Burro Canyon Aquifer as an alternate drinking-water source during periods of drought. The Burro Canyon Aquifer is the primary drinking-water source and agricultural-water source for residents who are not tied into the public water supply system.

Surface Water:

Montezuma Creek, a perennial stream that flows west to east through the millsite, is the main source of surface water in the Monticello area. Contamination enters the creek as it crosses the millsite. Ground water flowing under the millsite also adds contamination from the tailings piles to the creek.

How Is the Water Monitored?

DOE has a program in place to monitor surface-water and ground-water conditions over time. The program includes quarterly measurement of ground-water levels in wells and stream-discharge rates at surface-water sites. DOE takes these measurements to find out the direction the ground water is flowing and the rate of the water movement.

In addition, DOE collects surface-water samples at surface sites and ground-water samples at wells, typically in the spring and fall. The samples are submitted to a laboratory for chemical analysis. Analytical results are published in an annual environmental report that is available at the DOE Information Center in the Monticello City Office, 17 North 1st East, Monticello, Utah. A collection of all analytical results, including results for biota, sediment, and soil, will be presented in a Remedial Investigation Report. This report will be completed in late 1997.
